

## AUSTRALIAN HESPERIIDAE. VII.

NOTES ON THE TYPES AND TYPE LOCALITIES.

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During 1936 I spent a considerable time at the British Museum of Natural History, South Kensington, London. There I was able to examine all the Australian types of HesperIIDae in that vast collection and check over the results with my friend, Brigadier W. H. Evans. As Evans had been working on this family for several years, all the recent acquisitions had been put in their proper places. Thus my task with regard to this family was made much easier.

Mr. N. D. Riley, the Keeper of Entomology, gave me every facility to study the specimens and literature, and his advice on questions of nomenclature was very valuable. Mr. A. G. Gabriel also was of great assistance to me.

Besides the types of species described by the Lepidopterists of the Museum, all the types of Australian HesperIIDae described by Hewitson, many of those described by Mabille (received through the Oberthür collection) and a number of Fruhstorfer's are at the British Museum.

I had access to the registers, which in the case of specimens received many years ago gave information not on the labels, and clues to localities and collector. These registers go back to 1844, and record the origin of each batch of specimens under a separate number. The individual specimens are not listed in the register, but they bear a printed label with the year and acquisition number. In addition there are still older registers from which Mr. Riley had abstracted all the Australian references for me. I doubt if any important specimen escaped my study.

As so many skippers had been described by Hewitson from Australia, I made a special study of the specimens that had been in his collection and compared his descriptions with what are considered to be his types. Hewitson bequeathed his collection to the British Museum with the proviso that it be kept intact for 21 years and that a catalogue of it be prepared. This was done, and the list, prepared by Kirby, 1879, has been of great help, as it contains the number of specimens in the collection and their localities. I was able to find nearly all the Australian specimens mentioned by Kirby, only one important specimen being missing. As Hewitson, in many cases, did not publish all the information on his scanty labels, I was able to find out many new facts. He also had more than one distinct species under the one name, and apparently had very little knowledge of geographical distribution.

It has been stated that Hewitson considered a large label a disfigurement to a specimen. His labels are always small, and his localities, when given, always abbreviated. Thus I never found Australia written in full, but as Austral., Austrl. or Austl. For Moreton Bay he had Moreton, Morton, Mort., Mort. B., Mort. Bay or Mor. Bay. There is sufficient evidence that Hewitson, although he

described Australian species from other collections from other localities, received the bulk of his own Australian material from Swan River (Perth) and Moreton Bay (Brisbane). As many of his Moreton Bay specimens have Strang. or Str. added, it is almost certain that these were from Frederick Strange, who collected extensively near Brisbane. It may also explain the few South Australian species described by Hewitson, as Strange lived there for some time before going to Brisbane.

Mr. A. G. Gabriel, who was at the British Museum when the Hewitson collection was being labelled, has explained to me the procedure. A special label was printed with Hewitson Coll. on one line and 79-69 on the line beneath. 79 is the year 1879, and 69 is the acquisition number for that year. Room for writing was left both above and below the printing. Above the printing, Mr. F. A. Heron wrote in ink the unabbreviated locality, if any, taken from the pin. This small label was then gummed on the back of the printed label. If no locality was on the pin, Heron wrote the probable locality in pencil. Below the printing Heron then wrote in ink the name of the species taken from below the series in the collection. A number was added to this, representing the position of the specimen in the series. Hewitson rarely indicated a type and did not attach names to the specimens in his own collection, although he did so to species described from other collections. These details are important in arriving at a locality for his types and also in some cases in determining his species. The locality of Port Denison (Bowen) is wrong for many of his species, as I found labelled Pt. Den., three species from Fiji, one from Aru and one found only in south-western Australia. In consultation with Mr. Riley, it has been decided to reject this locality of Port Denison, unless confirmed by other evidence.

It is unfortunate that so many specimens in the British Museum were purchased in the past from dealers, as their localities are usually inadequate and in many cases erroneous.

In England I examined the Australian skippers described by Mr. E. Meyrick and saw what was available at Tring, thanks to the kindness of Lord Rothschild and Dr. K. Jordan. I have also seen the types of Miskin at Brisbane and Adelaide and have been very carefully through the Lower collection at Adelaide. All but two of my own types are in the Australian Museum, Sydney. I have copies of all the paintings of the new Australian skippers described by Plötz. It is unfortunate that, when these paintings were made from the originals in London, the other eastern species were not copied at the same time. Many of the figures in Seitz *Macrolepidoptera*, Vol. ix, are said to be taken from the unpublished drawings of Plötz, and I am sure that many others are from the same source. The determinations by Plötz of the older species are often inaccurate, and this accounts for species figured in Seitz under wrong names.

Notes on life-histories are only given if the information is new. The following notes, the result of my work in London last year, should bring the Australian species of this family into as perfect a state as possible at the present time. I am not giving references beyond the year of publication, as I have already published full lists in papers in *THESE PROCEEDINGS* for 1932, p. 238, and the *Records of the South Australian Museum*, v, 1933, pp. 61-2.

The references in parentheses after the specific or subspecific name refer to the figures in "The Butterflies of Australia", by Waterhouse and Lyell, 1914 (cited W. and L., 1914), in which the figures run consecutively from 1 to 888, and to "What Butterfly is That?", by G. A. Waterhouse, 1932 (cited Waterh., 1932), in which the coloured plates are numbered in roman. By this means the recent changes in

nomenclature will be recognized. The references to Seitz are to Vol. ix. As far as possible I have commented on as many published figures as possible, especially when they are incorrectly determined.

When I state that the types are in the British Museum or an Australian Museum, it is to be understood that I have examined them. The meanings of the various types are as follows:

Orthotype: Type of genus designated in original description.

Haplotype: Type by single reference (only species included).

Logotype: Type of genus by subsequent designation.

Holotype: The specimen of the species or race on which the description was based.

When a type is stated to be at Sydney, it is in the Australian Museum; when at Adelaide, it is in the South Australian Museum; and when at Brisbane, it is in the Queensland Museum.

#### Subfamily EUSCHEMONINÆ.

EUSCHEMON Doubleday, 1846.

Haplotype, *Hesperia rafflesia* W. S. Macleay, 1826.

*E. rafflesia rafflesia* W. S. Macleay, 1826 (Waterh., 1932, Pl. xxviii, 1♂).—The holotype has been lost and I have assigned (1932) Port Macquarie, N.S.W., as its place of capture. A white aberration is *albo-ornatus* Olliff, 1891, from the Richmond River, N.S.W. This specimen has also disappeared. In the British Museum are two specimens of this aberration, both of which have some yellow scales on the white spots on the upperside. These scales occupy different positions on right and left wings. The first name given to the northern race was unfortunately applied to a white form, *alba* Mabille, 1903, from Cooktown. Holotype male in the British Museum. I have named the ordinary green form *viridis* Waterh., 1932 (W. and L., 1914, 590♂, 591♂; Waterh., 1932, Pl. xxviii, 2♂). Holotype male at Sydney.

#### Subfamily CELAENORRHINÆ.

This subfamily, with the exception of *E. rafflesia*, contains all the Australian species that rest with their wings flat. Some have vein 5 of the hindwing tubular.

#### CHAETOCNEME Felder, 1860.

Logotype, *Chaetocneme corvus* Feld., 1860 (= *Papilio helirius* Cram., 1775). Synonyms: *Casyapa* Kirby, 1871, proposed by Kirby as he considered *Chaetocneme* preoccupied by *Chaetocnema* Steph., 1831. *Phoenicops* Watson, 1893, orthotype *Netrocoryne beata* Hew., 1867, is valid but not required as it only differs from *Chaetocneme* in the absence of a costal fold on the forewing in the male. This character is of little value for generic separation.

*C. critomedia sphinterifera* Fruhst., 1910 (W. and L., 1914, 575♀; Waterh., 1932, Pl. xxviii, 6♂).—Holotype male from Cape York in the British Museum from the Fruhstorfer collection. It does not agree with my specimens from Cape York, but is nearer to them than any of the other races in the British Museum. The Australian race has only been taken on the Cape York Peninsula. Miskin's record of Brisbane is an error, as is the record of W. Australia in the British Museum from the Godman and Salvin collection (ex Coll. Herbert Druce).

*C. porphyropis* Meyr. and Lower, 1902 (W. and L., 1914, 578♂; Waterh., 1932, Pl. xxviii, 5♂).—Holotype male from Johnstone River, N. Qld., at Adelaide. This species has a very small costal fold in the male. It may possibly be an extreme race of *C. caristus* Hew., 1867, but sufficiently distinct to be considered a species.

One of the two specimens of the latter species in the Hewitson collection is incorrectly labelled Port Denison.

*C. beata* Hew., 1867 (W. and L., 1914, 576♂, 577♀; Waterh., 1932, Pl. xxviii, 3♂, 3A♀).—Holotype male in the British Museum labelled Austrl. Str., so it must have come from near Brisbane. It is No. 1 and not the specimen figured by Hewitson, Exot. Butt., 1874, which is No. 3. The figures in Seitz Pl. 163 are too highly coloured, especially the male.

*C. denitza* Hew., 1867 (W. and L., 1914, 573♀, 579♀; Waterh., 1932, Pl. xxviii, 4♂).—Holotype male from Brisbane in the British Museum. Port Darwin, given by Lower, is a very doubtful locality. The figures in Seitz Pl. 163 are good.

#### EXOMETOECA Meyrick, 1888.

Haplotype, *E. nycteris* Meyr., 1888. The only species in the genus.

*E. nycteris* Meyr., 1888 (W. and L., 1914, 589♂, 887♂, 888♂; Waterh., 1932, Pl. xxviii, 7♀).—Holotype male from Albany in Meyrick collection. The species is confined to south-western Australia, and when at rest sits with its wings flat.

#### NETROCORYNE Felder, 1867.

Haplotype, *N. repanda* Feld., 1867.

*N. repanda repanda* Feld., 1867 (W. and L., 1914, 723♂; Waterh., 1932, Pl. xxviii, 8♂).—Holotype male is at Tring, labelled Moreton Bay. *Goniloba vulpecula* Prittwitz, 1868, from New Holland is a synonym of this race, which is found in southern Queensland and New South Wales to Sydney. The holotype female of the northern race *expansa* Waterh., 1932, from Kuranda is at Sydney. This race is rare in collections.

#### TAGIADES Hubner, 1823.

Logotype, *Papilio japedus* Stoll, 1781.

*T. japedus japedus* Butl., 1870 (W. and L., 1914, 724♀; Waterh., 1932, Pl. xxviii, 9♂).—Evans considers the following eastern races of *japedus* to be inseparable: *janetta*, holotype male in the British Museum, from Aru; *gamelia* Misk., 1889, holotype male from Cape York at Brisbane; *australiensis* Mab., 1891, from Cape York, holotype probably lost; *louisa* Swinhoe, 1907, holotype female from Rossel Is. in the British Museum. As far as the specimens in the British Museum showed, there is little difference between specimens from Cape York and the holotype of *janetta* from Aru.

*T. nestus curiosa* Swinhoe, 1905 (W. and L., 1914, 780♂).—Evans has pointed out to me that there are two very similar species in the Papuan area and, having examined the male genitalia of the single specimen from Darnley Is., I find that it belongs to *nestus* Feld., 1860, and not to *sem* Mabille, 1883.

#### Subfamily HETEROPTERINAE.

Only one genus of this subfamily is found in Australia and only one species.

#### NOTOCRYPTA de Niceville, 1889.

This genus replaces *Plesioneura* Feld., 1862 (preoccupied), with the same orthotype, *P. curvifascia* Feld., 1862.

*N. waigensis proserpina* Butl., 1883 (W. and L., 1914, 736♀; Waterh., 1932, Pl. xxviii, 16♀).—Evans considers that *proserpina* Butl., holotype male in the British Museum from Aru, *leucogaster* Staudinger, 1889, from Cooktown, and *ribbei* Fruhst., 1911, holotype male in the British Museum from Key, all belong to the same race of *N. waigensis* Plötz, 1882. Mr. Manski has bred our race, the larvae feeding on *Alpina caerulea* (Wild Ginger). They are long, slender and pale

green in colour. The pupa is long and cylindrical and greenish in colour, the proboscis is more or less free and extends beyond the posterior end of the pupa.

Subfamily RHOPALOCAMPTINAE.

This name must be used as *Ismene* Swainson, 1820, is preoccupied.

HASORA Moore, 1881.

Orthotype, *Gonitoba badra* Moore, 1865. *Parata* Moore, 1881, orthotype, *Papilio chromus* Cram., 1780 (= *Papilio alexis* Fab., 1775), with sex mark on forewing in male, is not considered sufficiently distinct.

*H. hurama hurama* Butl., 1870 (W. and L., 1914, 727♂, 728♂; Waterh., 1932, Pl. xxviii, 13♂).—Holotype male from Cape York in the British Museum and agrees with the description, except that Butler does not mention the sex mark. The locality Champion Bay (Geraldton, W. Aust.) is erroneous.

*H. alexis contempta* Plötz, 1884 (W. and L., 1914, 729♂, 730♀; Waterh., 1932, Pl. xxviii, 14♂, 14A♀).—The holotype is stated to have come from Cape York, and I have specimens from there agreeing with the coloured figure of Plötz. The holotype male of *lucescens* Lucas, 1900, from Cairns is at Adelaide and is a synonym.

*H. khoda haslia* Swinhoe, 1899 (W. and L., 1914, 725♂, 726♀; Waterh., 1932, Pl. xxviii, 12♀).—Holotype male in the British Museum from Brisbane and agrees with the description, except that Swinhoe does not mention the sex scales along the veins of the forewing in the male. Seitz does not mention *Khoda* Mabille, 1876, and erroneously puts *haslia* as a race of *alexis* Fab., 1775.

*H. discolor mastusia* Fruhst., 1911 (W. and L., 1914, 721♂, 722♂; Waterh., 1932, Pl. xxviii, 11♂).—Holotype male in the British Museum labelled Queensland, although Fruhstorfer gives Cape York in his description. It is in poor condition and has a narrower band on the underside of the hindwing than in other specimens I have seen.

ALLORA Waterhouse and Lyell, 1914.

Orthotype, *Ismene doleschalli* Feld., 1860.

The type of the Australian race, *A. doleschalli simessa* Fruhst., 1911 (W. and L., 1914, 719♂, 720♂; Waterh., 1932, Pl. xxviii, 10♂), from North Australia could not be found in the Fruhstorfer collection in the British Museum. I nominate Cape York as the locality for this race.

BADAMIA Moore, 1881.

Orthotype, *Papilio exclamationis* Fab., 1775 (W. and L., 1914, 733♂, 734♀, 735♂; Waterh., 1932, Pl. xxviii, 15♂, 15A♀) is common throughout the Oriental and Australian regions. The holotype is probably lost. It does not seem to have developed into races, and in Australia occurs as far south as Sydney. In the eastern Pacific another species, *B. atrox* Butl., 1877, occurs with *exclamationis*.

Subfamily TRAPEZITINAE.

This family is confined to Australia, except for three species from the New Guinea area. On the hindwing the internal veinlet has a fork to the origin of vein 4. Plötz, 1884, placed all the species he described and listed under *Telesto* Boisd., 1832 (preoccupied).

TRAPEZITES Hübner, 1823.

Haplotype, *T. symmommus* Hb., 1823. *Pallasingha* Watson, 1893, with orthotype *Hesperia phigalia* Hew., 1868, is not distinct enough to warrant separation. *Steropes* Boisd., 1832 (logotype *Papilio iacchus* Fab., 1775) is preoccupied.

*Trapezites symmomus* Hb., 1823 (W. and L., 1914, 731♀, 732♂; Waterh., 1932, Pl. xxviii, 17♀).—Described from New Holland; the figures in the second hundred of the Zutrage are of a male and agree best with specimens from Sydney, which must be taken as the locality of the holotype, which is undoubtedly lost. In 1932 I described the southern race *soma* from Frankston, Vict., and the northern race *sombra* from Herberton, Qld. The holotype males of both are at Sydney. Misken, 1891, in his catalogue, marked this species as unknown to him, but he had it in his collection under the name *iacchus* Fab. This species has only one brood.

*T. iacchus* Fab., 1775 (W. and L., 1914, 596♂, 597♀; Waterh., 1932, Pl. xxix, 2♂).—Holotype a female in the Banksian cabinet in the British Museum. The locality Cooktown must be assigned to this specimen. Donovan's figure of the holotype is faulty as it shows an extra spot on the underside of the hindwing. This species is quite distinct from *eliëna* Hew.; their ranges overlap for more than 300 miles in Queensland and the male genitalia are different. Hewitson had one male of this species and three males and one female of his *eliëna*, all from Brisbane, under the name *iacchus*, as he considered the two species the same.

*T. eliëna eliëna* Hew., 1868 (W. and L., 1914, 604♂, 605♀; Waterh., 1932, Pl. xxix, 1♂).—Holotype male in the British Museum from Brisbane. In his collection Hewitson had sunk *eliëna* to *iacchus*. Plötz, 1884, erroneously described *caecilius* from India. His unpublished figure 798 shows this to be a male *eliëna*, as the orange band of the hindwing is divided by the veins. Plötz, 1884, sinks *eliëna* Hew. to *iacchus* Fab. and incorrectly places the figure of *eliëna* given by H-Sch., 1869, as a synonym of *donnysa* Hew. Meyrick and Lower, 1902, described this species under *iacchus*, with *eliëna* as a synonym. Lower, 1911, corrected this mistake and gave a description of both. Figure 167h in Seitz is poor, especially the underside. There is no authentic record of this species from Tasmania. The second race of this species is *monocycla* Lower, 1911, from Mt. Gambier, S. Aust., holotype female at Adelaide. Most specimens have more than the central white spot on the underside of the hindwing. The best character to distinguish *monocycla* is the yellow colour of the hindwing on the underside. It is confined to South Australia and western Victoria. The species has two broods. Anderson and Spry, 1894, figure the race *monocycla* as *iacchus*.

*T. iacchoïdes* Waterh., 1903 (W. and L., 1914, 598♂, 599♂, 738♀; Waterh., 1932, Pl. xxix, 3♂).—Holotype male from Katoomba, N.S.W., at Sydney. This distinct species has one brood in the early spring. Probably other races occur, but, except near Sydney and the Blue Mts., the material is insufficient. *T. maheta* ab. *obruta* Seitz, 1927, is probably this species.

*T. maheta maheta* Hew., 1877.—Holotype male from Queensland in the British Museum. It agrees best with specimens from Brisbane which is nominated the type locality. Both the coloured and uncoloured figures of Herrich-Schaeffer, 1869, of *phigalia* represent the female of this species and fig. 167g in Seitz of *phigalia* is also a female. As his coloured drawing 796 shows, *praxedes* Plötz, 1884, from Sydney, in Berlin Museum, is the southern race (W. and L., 1914, 606♂, 607♂, 614♀; Waterh., 1932, Pl. xxix, 4♂, 4A♀). The species has two broods.

*T. phigalioides* Waterh., 1903 (W. and L., 1914, 615♀, 624♂, 625♂; Waterh., 1932, Pl. xxix, 5♂).—Holotype male from Victoria at Sydney. Figured as *phigalia* by Anderson and Spry, 1894. One brood in the early spring, sometimes found flying with *iacchoïdes*.

*T. phigalia phigalia* Hew., 1868 (W. and L., 1914, 612♂, 613♀; Waterh., 1932, Pl. xxix, 6♂).—This species was described from Australia and, although I have

an excellent coloured drawing of the female from the Hewitson collection, which is considered the holotype, I have found a difficulty in assigning the type locality. Kirby lists two specimens in the Hewitson collection, but only the female No. 2 could be found. A specimen of *T. petalia* Hew. labelled *Hesperilla phigalia* No. 1 was found, so some misplacement between these two species must have taken place, since both the specimens of *petalia* listed by Kirby were found. The female considered the holotype female does not quite agree with the description. I have selected near Adelaide as the type locality, as Hewitson determined a specimen for H. R. Cox, 1873, from there as *phigalia*. Comparing the expanses given by Hewitson on the same page, we find for *eliena*  $1\frac{1}{2}$  in., for *petalia*  $1\frac{5}{20}$  in., and for *phigalia*  $1\frac{7}{20}$  in. I should think that Hewitson was describing a male. If Victorian specimens are found to be distinct, the names *phlaea* Plötz, 1884, and *phillyra* Miskin, 1889, are available. The holotype male of the latter is at Adelaide. The race from southern Queensland with pinkish underside I have named *phila*, 1937. Holotype male at Sydney.

*T. sciron* Waterh. and Lyell, 1914 (W. and L., 1914, 746♂, 747♀; Waterh., 1932, Pl. xxix, 7♂).—Holotype male from Stirling Ranges, W. Aust., at Sydney. It is the only species of the genus in Western Australia.

*T. luteus luteus* Tepper, 1882 (W. and L., 1914, 660♂, 748♂; Waterh., 1932, Pl. xxix, 8♂).—Holotype male in poor condition from Ardrossan, S.A., at Adelaide. It must be rare in South Australia, as I do not know of more than seven specimens. Until more material is available from South Australia, I am keeping the specimens from Victoria (2), N. S. Wales and S. Qld. under the typical race. In Tasmania the race *glaucus* (W. and L., 1914, 661♂, 739♀; Waterh., 1932, Pl. xxix, 9♂) occurs. Holotype male at Sydney. This is listed by Plötz, 1884, as *petalia* and figured by Seitz Pl. 167 as *petalia*.

*T. petalia* Hew., 1868 (W. and L., 1914, 657♂, 658♀, 659♂; Waterh., 1932, Pl. xxix, 10♂).—Holotype male in the British Museum from Brisbane. I found the two specimens listed by Kirby that were in the Hewitson collection. In Meyrick's collection is a male with a Gayndah label. This must be the holotype of his *megalopsis*, 1888, which he considered a female. It is a synonym of this species. Although this species has a wide range in eastern Australia, it does not seem to have developed races. It has two broods. The figure in Seitz Pl. 167 is *T. luteus glaucus*.

*T. heteromacula* Meyr. and Lower, 1902 (W. and L., 1914, 622♀, 623♂; Waterh., 1932, Pl. xxix, 11♀).—Holotype male from Cooktown in the Macleay Museum, Sydney. A rare species. The name is also spelt *heliomacula* in the table of species.

#### ANISYNTOIDES Waterhouse, 1932.

Orthotype, *Cyclopides argenteo-ornatus* Hew., 1868. It is the only species in the genus.

*A. argenteo-ornatus argenteo-ornatus* Hew., 1868 (W. and L., 1914, 709♂, 710♀; Waterh., 1932, Pl. xxix, 14♂).—Holotype female in the British Museum from Swan River (Perth). This is the race on the mainland. The figure in Seitz Pl. 167 of the underside is not good. The race from the islands, typically from Monte Bello Is., is *insula* Waterh., 1932. Holotype male at Sydney.

#### PASMA Waterhouse, 1932.

Orthotype, *Hesperilla tasmanicus* Misk., 1889. Two rather dissimilar species are in this genus.

*P. tasmanicus* Misk., 1889 (W. and L., 1914, 750♂, 751♀; Waterh., 1932, Pl. xxix, 13♀).—Holotype male from Tasmania at Brisbane, not a female as stated by Miskin. Holotype male, *Telesto comma* Kirby, 1893, from Victoria in the British Museum, not a female as stated by Kirby. The lowest spot of the subapicals of the forewing is produced like a comma, this is unusual. I cannot see any subspecific differences in specimens from Tasmania, Victoria and N. S. Wales.

*P. polysema* Lower, 1908 (W. and L., 1914, 745♀, 754♂; Waterh., 1932, Pl. xxix, 12♂).—Holotype female from Petford, Qld., at Sydney. A rare northern species.

#### ANISYNTA Lower, 1911.

Orthotype, *Cyclopides cynone* Hew., 1874. The species of this genus have squarer wings and are not so robust as those of *Trapezites*.

*A. cynone* Hew., 1874.—Holotype male in the British Museum with no more definite locality than Australia. It is the only specimen in the Hewitson collection listed by Kirby. The description agrees fairly well with the type, but there are only six spots, not seven, on forewing upperside, one in the cell and 2 and 3 and three subapicals, also the central spot on the upperside of the hindwing is a blemish. As it does not quite agree with specimens taken near Adelaide and may possibly have been caught by Strange during his travels in South Australia, it is perhaps best to keep it as a race from an unknown locality, probably on the Murray River. The figure in Seitz Pl. 171d of the underside bears little resemblance to the species. The race near Adelaide is *gracilis* Tepper, 1882 (W. and L., 1914, 761♂, 762♀, 763♂; Waterh., 1932, Pl. xxix, 15♂). Holotype male at Adelaide from Salisbury, Adelaide Plains. Both Tepper's specimens are males. The holotype male of the Victorian race *grisea* Waterh., 1932, Pl. xxix, 16♂, is at Sydney from Kerang. This locality is in northern Victoria not far from the Murray River.

*A. sphenosema* Meyr. and Lower, 1902 (W. and L., 1914, 643♀, 644♂, 645♂, 646♂; Waterh., 1932, Pl. xxix, 17♂, 17A♀).—Holotype male (described as a female) at Adelaide from Perth. Hewitson had a specimen in his collection with the impossible locality Port Denison, Qld. Lower, 1911, sunk *paraphaes* Meyr. and Lower, 1902, from Perth, under *sphenosema*, but the holotype could not be found at Adelaide. There are specimens of *sphenosema* labelled *paraphaes* by Lower in the Australian Museum. There is a female of *sphenosema* in the British Museum from the Hewitson collection incorrectly labelled Port Denison.

*A. tillyardi* Waterh. and Lyell, 1912 (W. and L., 1914, 767♂, 768♀, 769♂; Waterh., 1932, Pl. xxix, 18♂).—Holotype male from Ebor, N. S. Wales, at Sydney. This species is only found above 2,000 ft.

*A. monticolae* Olliff, 1890 (W. and L., 1914, 758♂, 759♀, 760♂; Waterh., 1932, Pl. xxx, 21♂).—Holotype male from Mt. Kosciusko, N. S. Wales, at Sydney. Only occurs above 3,000 ft.

*A. dominula dominula* Plötz, 1884.—Plötz described his species from Tasmania and his fig. 791 represents a male of the larger Tasmanian race, probably from near Launceston. Seitz figures this on Pls. 168 and 171, the latter figures being the better. The small mountain race is *pria* Waterh., 1932, from Cradle Mt., Tas., holotype male at Sydney. The race from Australia is *drachmophora* Meyr., 1885 (W. and L., 1914, 764♂, 765♀, 766♂; Waterh., 1932, Pl. xxx, 20♂), from Mt. Kosciusko. I saw the holotype male in Meyrick's collection.

## SIGNETA Waterhouse and Lyell, 1914.

Orthotype, *Telesto flammeata* Butl., 1882. The males have an ovoid sex mark on the upperside of the forewing.

*S. flammeata* Butl., 1882 (W. and L., 1914, 652♂, 653♀, 654♀; Waterh., 1932, Pl. xxix, 20♂, 20A♀).—Holotype female from Melbourne in the British Museum with the holotype male of *T. eclipsis* Butl., 1882, the other sex. *Hesperilla atromacula* Misk., 1889, is a synonym. I have seen the holotype male from Victoria at Brisbane. This species is only found in the early autumn.

*S. tymbophora* Meyr. and Lower, 1902 (W. and L., 1914, 662♂, 663♀, 664♂; Waterh., 1932, Pl. xxix, 19♂).—Holotype male from Mt. Kembla, N. S. Wales, at Adelaide. Also an autumn species. It has recently been taken at Barrington Tops.

## DISPAR Waterhouse and Lyell, 1914.

Orthotype, *Telesto compacta* Butl., 1882. This species has the uncus in the male sharply pointed, unlike any other Trapezitinae. The sexes are widely different, so much so that Watson, 1893, considered they belonged to different genera.

*D. compacta* Butl., 1882 (W. and L., 1914, 705♂, 706♀, 707♂, 708♀; Waterh., 1932, Pl. xxx, 22♂, 22A♀).—Holotype male from Melbourne in the British Museum. Holotype female, *Telesto scepticalis* Rosenstock, 1885, from Melbourne in the British Museum is this species. Holotype male, *Hesperilla melissa* Mab., 1891, labelled Sydney, is in the British Museum and is a synonym. A coloured drawing of *Hesperilla atrax* Mab., 1891, shows that it is a female of this species. It is described from Australia. Lower, 1911, states the holotype is in the Berlin Museum (Coll. Staudinger).

## TOXIDIA Mabilles, 1891.

Haplotype, *Toxidia thyrrhus* Mab., 1891. The following genera are included here: *Telesto* Boisd., 1832, haplotype *Hesperia peron* Latr., 1824, preoccupied in 1812. *Oxytoxia* Mab., 1904, logotype *Telesto doubledayi* Feld., 1862. *Timoconia* Strand, 1909, orthotype *T. thielei* Strand, 1909 (= *Hesperia peron* Latr.). *Oxytoxia* and *Timoconia* are available if their genotypes are found to be generically different from *thyrrhus*. *T. thielei* was described from a specimen supposed to come from Africa.

*T. peron* Latr., 1824 (W. and L., 1914, 620♂, 621♂, 742♀; Waterh., 1932, Pl. xxx, 13♂).—Holotype male in the Paris Museum from Australia. Considering the date, Sydney is nominated the type locality. The holotype of *Telesto kochi* Feld., 1862, from Sydney could not be found at Tring. The figures in Seitz are stated to be from cotypes in Koch's collection. Holotype male of *Hesperilla doclea* Hew., 1868, from Moreton Bay in the British Museum. In Exot. Butt., v, 1874, Hewitson figured the female of this species as the female of *M. halysia*. Holotype female *Telesto arsenia* Plötz, 1884, in the Berlin Museum and his figure 805 show it to be the female of this species. Evans has seen the holotype male of *T. thielei* Strand, 1909, in the Berlin Museum, described in error from Africa. It is this species.

*T. crypsigramma* Meyr. and Lower, 1902 (W. and L., 1914, 639♂, 640♂; Waterh., 1932, Pl. xxx, 15♂).—Holotype male from Herberton, Qld., at Adelaide. When its larva and pupa are known it may be found to belong to *Hesperilla*.

*T. doubledayi* Feld., 1862 (W. and L., 1914, 608♂, 609♂; Waterh., 1932, Pl. xxx, 10♂).—The holotype male of this and that of the female *T. leachi* Feld., 1862.

both from Sydney, could not be found at Tring. *Carystus vallio* Mab., 1891, represented by forewings in the British Museum, and *vallio* in Mabille's writing is a female of this species. Figure 803 of *extranea* Plötz, 1884, seems to represent *leucostigma* rather than *doubledayi*. Herrich-Schaeffer, 1869, figures this as *H. dirphia* Hew. In Seitz Pl. 167 the figures of the sexes are reversed.

*T. leucostigma leucostigma* Meyr. and Lower, 1902 (W. and L., 1914, 616♂, 617♂; Waterh., 1932, Pl. xxx, 11♂).—Holotype male, from near Sydney, at Adelaide. The northern race is *parasema* Lower, 1908 (W. and L., 1914, 637♂, 638♀; Waterh., 1932, Pl. xxx, 12♀). Holotype male from Kuranda, Qld., at Adelaide.

*T. parvulus* Plötz, 1884 (W. and L., 626♂, 627♂; Waterh., 1932, Pl. xxx, 8♂).—Fig. 790 of Plötz shows the holotype is a male from New Holland. I nominate Rockhampton as the type locality. *Hesperilla humilis* Misk., 1889, is the same species, holotype male from Brisbane at Brisbane. *Hesperilla ismene* must date from Anderson and Spry, 1894. The name *ismene* is said to have been given by Newman, but, although used several times previously, no description appeared until 1894.

*T. thyrrhus* Mab., 1891 (W. and L., 1914, 618♂, 619♂; Waterh., 1932, Pl. xxx, 9♂).—Holotype female from Cooktown in the Berlin Museum. A coloured drawing of it shows it to be a female, and not a male as stated by Mabille. *T. bathrophora* Meyr. and Lower, 1902, holotype male from Mackay at Adelaide is the same species. Miskin in his collection had this species under *halyzia*, a species not in his collection.

*T. melania* Waterh., 1903 (W. and L., 1914, 667♂, 668♀, 669♂; Waterh., 1932, Pl. xxx, 14♂).—Holotype male from Cairns at Sydney.

#### NEOHESPERILLA Waterhouse and Lyell, 1914.

Orthotype, *Hesperilla croceus* Misk., 1889. The genus is found only in Queensland and North Australia and consists of four closely allied species.

*N. croceus* Misk., 1889 (W. and L., 1914, 647♂, 655♀, 753♂; Waterh., 1932, Pl. xxx, 5♂).—Holotype male from Cooktown at Brisbane. Miskin described the female of *xanthomera* as the female of this species. *Hesperilla satulla* Mab., 1891, is a female from Cooktown in the Berlin Museum.

*N. xiphiphora* Lower, 1911 (W. and L., 1914, 656♂; Waterh., 1932, Pl. xxx, 6♂).—Holotype male from Port Darwin at Adelaide.

*N. senta* Misk., 1891 (W. and L., 1914, 665♀, 666♀, 752♂; Waterh., 1932, Pl. xxx, 7♂).—Holotype female from Herberton, Qld., at Brisbane.

*N. xanthomera* Meyr. and Lower, 1902 (W. and L., 1914, 673♂, 674♂, 675♀; Waterh., 1932, Pl. xxx, 3♂, 3A♀).—Holotype male from Townsville, Qld., at Adelaide. For an important note on this type see *Records South Australian Museum*, v, p. 58, 1933.

#### MESODINA Meyrick, 1901.

Orthotype, *Hesperilla halyzia* Hew., 1868. Lower, 1911, erroneously gives the orthotype as *M. aeluropis* Meyr.

*M. halyzia halyzia* Hew., 1868 (W. and L., 1914, 688♂, 689♂; Waterh., 1932, Pl. xxx, 1♂).—Holotype male in the British Museum labelled Port Denison. As there are no other records from north of Brisbane and most of Hewitson's records of Port Denison are wrong, I nominate Brisbane as the type locality. In *Exot. Butt.*, v, 1874, Hewitson figured the female *peron* as the female of this species and marked them so in his collection. Miskin applied this name to *thyrrhus*. The figures in Seitz Pl. 171 are poor, especially that of the underside.

The race from Western Australia is *cyanophracta* Lower, 1911 (W. and L., 1914, 774♂, 775♀). Holotype male from Perth at Adelaide.

*M. aeluropis* Meyr., 1901 (W. and L., 1914, 698♂, 699♂; Waterh., 1932, Pl. xxx, 2♂).—I have seen the holotype male from Katoomba, N. S. Wales, in Meyrick's collection.

CROITANA Waterhouse, 1932.

Orthotype, *Cyclopides croites* Hew., 1874.

*C. croites croites* Hew., 1874 (W. and L., 1914, 757♂; Waterh., 1932, Pl. xxx, 3♂).—Holotype female in the British Museum labelled Australia and no doubt came from near Perth. The more interior race is *pindar* Waterh., 1932 (W. and L. 1914, 755♂, 756♀). Holotype male from Pindar, W.A., at Sydney. A very worn male from Hermannsburg, Central Australia, probably belongs here.

OREISPLANUS Waterhouse and Lyell, 1914.

Orthotype, *Hesperilla munionga* Olliff, 1890.

*O. munionga* Olliff, 1890 (W. and L., 1914, 670♀; Waterh., 1932, Pl. xxxii, 17♂).—Holotype male from Mt. Kosciusko, N. S. Wales, at Sydney.

*O. perornatus* Kirby, 1893 (W. and L., 1914, 594♂, 595♂; Waterh., 1932, Pl. xxxii, 16♂).—Holotype female from Victoria in the British Museum. The figures of *ornata* uppersides in Seitz Pl. 167f are this species.

HESPERILLA Hewitson, 1868.

Orthotype, *Hesperia ornata* Leach, 1814. The differences in the larvae and pupae are the chief points to separate this genus from *Toxidia*, the larvae and pupae of which are more like those of *Trapezites*. On this account *malindeva* was placed here, and now, for the same reason, *sexguttata* comes into this genus. Probably *crypsigramma* will be found to belong here.

*H. ornata ornata* Leach, 1814 (W. and L., 1914, 602♂, 603♂; Waterh., 1932, Pl. xxxii, 13♂).—Holotype could not be found in the British Museum. Sydney must be the locality of the type. The figures in Seitz Pl. 167f of the uppersides of *ornata* are *perornatus* and of the underside *picta*. The northern race is *monotherm* Lower, 1907 (W. and L., 1914, 635♀, 636♀; Waterh., 1932, Pl. xxxii, 14♀), holotype female from Kuranda, Qld., at Adelaide.

*H. picta* Leach, 1814 (W. and L., 1914, 610♂, 611♂; Waterh., 1932, Pl. xxxii, 10♂).—Holotype could not be found at the British Museum. Sydney must be the type locality. The figure of the underside of *ornata* is *picta* and the figures of *picta* are very poor on Seitz Pl. 167.

*H. crypsargyra crypsargyra* Meyr., 1888 (W. and L., 1914, 600♂, 601♂; Waterh., 1932, Pl. xxxii, 11♂).—I have seen the holotype male from the Blue Mts., N. S. Wales, in Meyrick's collection. The northern race in New South Wales is *hopsoni* Waterh., 1927 (Waterh., 1932, Pl. xxxii, 12♀). Holotype male from Barrington Tops at Sydney.

*H. mastersi* Waterh., 1900 (W. and L., 650♂, 651♂; Waterh., 1932, Pl. xxxii, 9♂).—Holotype male from Clifton, N. S. Wales, at Sydney. This rare species has recently been taken at Port Macquarie, N. S. Wales.

*H. idothea idothea* Misk., 1889 (W. and L., 1914, 716♂, 717♀, 718♂; Waterh., 1932, Pl. xxxii, 8♂, 8A♀).—Holotype female from Victoria at Adelaide. Holotype male and allotype female of *Trapezites dispar* Kirby, 1893, from Victoria are in the British Museum and are the same species. The South Australian race is *clara* Waterh., 1932, holotype male from Mt. Lofty at Sydney.

*H. andersoni* Kirby, 1893 (W. and L., 1914, 770♂, 771♀, 772♂; Waterh., 1932, Pl. xxxii, 7♂).—Holotype male from Victoria in the British Museum.

*H. chaostola chaostola* Meyr., 1888.—I have seen the holotype male from Blackheath, N. S. Wales, which was the only specimen in Meyrick's collection. The Victorian race is *chaes* Waterh., 1933 (W. and L., 1914, 690♀, 691♂, 700♂; Waterh., 1932, Pl. xxxii, 1♂). Holotype male at Sydney.

*H. chrysostricha chrysostricha* Meyr. and Lower, 1902 (W. and L., 1914, 631♂, 777♂; Waterh., 1932, Pl. xxxii, 5♂, 5A♀).—Holotype male from Albany, W. Aust., at Adelaide. The Victorian race is *cyclospila* Meyr. and Lower, 1902. Holotype male also at Adelaide. In *Records South Australian Museum*, v, p. 56, 1933, I have discussed this race. *H. leucospila* Waterh., 1927, is a synonym, holotype male in National Museum, Melbourne. The Tasmanian race is *plebeia* Waterh., 1927 (W. and L., 1914, 632♂; Waterh., 1932, Pl. xxxii, 6♂). Holotype male at Sydney.

*Hesperilla donnysa* Hew., 1868.—I find it difficult to assign a locality for the holotype male of this species in the British Museum from the Hewitson collection. Hewitson described both male and female and gave as locality Australia (Moreton Bay). He says: "Female without the small yellow spot of the anterior wing and the central orange of the posterior wing." These two characters are, however, always found in females of all races of *donnysa*. Therefore, his female was not this species. This is borne out by the fact that Hewitson, when figuring the upperside of the male in *Exot. Butt.*, v, 1874, omits any reference to the female. Also in Kirby's list only one specimen is mentioned with the locality Australia. The holotype bears the label "Austl." in Hewitson's writing. It appears to me that Hewitson transferred the locality Moreton Bay from his 1868 description to his 1874 description without looking at the label, Moreton Bay being the locality of his female. The species is very rare in the Moreton Bay district, as I have only seen one specimen, and that a male, from Stradbroke Is. The excellent coloured drawing I brought from London certainly agrees best with specimens from eastern Australia, but there is evidence that Hewitson received his eastern material only from near Brisbane. Perhaps for the present Moreton Bay may be retained as the locality of the holotype.

*H. donnysa donnysa* Hew., 1868 (W. and L., 1914, 633♂, 634♀; Waterh., 1932, Pl. xxxii, 2♂).—Holotype male in the British Museum from Australia. I have many specimens from N. S. Wales and eastern Victoria. The race from Altona Bay, Vict., is *flavescens* Waterh., 1927 (Waterh., 1932, Pl. xxxii, 3♂); from Tasmania is *aurantia* Waterh., 1927; from South Australia *diluta* Waterh., 1932; from S.W. Australia *albina* Waterh., 1932 (W. and L., 1914, 776♀; Waterh., 1932, Pl. xxxii, 4♂); from Geraldton, W. Aust., *galena* Waterh., 1927. The holotype males of these races are at Sydney. In the Banksian Cabinet is a female *donnysa* labelled Friendly Is. Nelson; this agrees with specimens I have taken near Botany Bay. There are also in the British Museum two males from the New Hebrides, H.M.S. Dart, acquired in 1892; one of these has a small label Mt. Wellgn. Feb. 1890, so they must have come from Tasmania with other species under the registration 92-144.

*H. malindeva* Lower, 1911 (W. and L., 1914, 740♂, 741♀, 749♂; Waterh., 1932, Pl. xxxii, 15♂, 15A♀).—Holotype male from Herberston, Qld., at Adelaide.

*H. sexguttata sexguttata* H.-Sch., 1869 (W. and L., 1914, 641♂, 642♀; Waterh., 1932, Pl. xxx, 16♂).—Holotype female from Rockhampton, probably lost. The race from Banks Is. is *sela* Waterh., 1932, holotype male at Sydney. The material available of this species is still insufficient to determine the races and their range.

Dr. T. Guthrie and Mr. M. J. Manski have bred this species at Cairns, Qld., feeding on *Cyperus pinnatus*. The larvae are like those of the other *Hesperilla* and the pupa has a headpiece somewhat like that of *malindeva*. It must therefore be removed from *Toxidia* to *Hesperilla*.

MOTASINGHA Watson, 1893.

Orthotype, *Hesperilla dirphia* Hew., 1868. The early stages of the two species in this genus are more closely allied to *Hesperilla* than to *Toxidia*.

*M. dirphia dirphia* Hew., 1868.—Holotype female from Swan River in the British Museum, as well as the other female indicated by Hewitson in his description. In Exot. Butt., v, 1874, the male is figured and is also in the British Museum. The race from South Australia is *trimaculata* Tepper, 1882, holotype male at Adelaide, together with the holotype female *quadrinaculata* Tepper, 1882, the female of this race, which Tepper later (1890) called *petalia* Hew. Two races occur in New South Wales, the holotype males being at Sydney. These are *dilata* Waterh., 1932 (W. and L., 1914, 628♂, 629♀, 630♂; Waterh., 1932, Pl. xxx, 19♂, 19A♀), from Sydney and *dea* Waterh., 1933, from the Blue Mts.

*M. atralba atralba* Tepper, 1882.—Holotype female consisting of two forewings at Adelaide. Tepper's figures of this and the other species described by him are very inaccurate. The typical race from South Australia is *atralba* (W. and L., 1914, 649♀; Waterh., 1932, Pl. xxx, 17♂). The male has a narrow inconspicuous stigma unlike the broad stigma of the Western Australian races. These are *nila* Waterh., 1932, holotype male from Dirk Hartog Is. at Sydney; *dactyliota* Meyr., 1888, holotype male from Geraldton in Meyrick's collection; the large race *anaces* Waterh., 1937 (W. and L., 1914, 648♀, 773♂; Waterh., 1932, Pl. xxx, 18♂), from Hamel; and *anapus* Waterh., 1937, from Stirling Ranges. The holotype males of *anaces* and *anapus* are at Sydney.

#### Subfamily HESPERIINAE.

As the type of the genus *Hesperia* Fab. has been determined to be *Papilio comma* Linn., 1758, this subfamily name must be used in place of Pamphilinae. The Australian species have mostly come here by way of New Guinea, where many more species are found. To a very great extent I have to rely on Brigadier Evans for information on the species that range beyond Australia. I begin with those species with a pronounced headpiece in the pupa, in this way resembling the *Hesperilla*.

PELOPIDAS Walker, 1870.

Haplotype, *Pelopidas midas* Walker, 1870 (= *Celaenorrhinus thrax* Hb.). Unfortunately this name has to replace *Chapra* Moore, 1881, with orthotype *Hesperia mathias* Fab., 1798. Evans has pointed out that *mathias* Fab. does not occur in Australia, but there are two distinct species somewhat similar, but larger.

*P. agna* Moore, 1865 (Waterh., 1932, Pl. xxxiv, 10♂).—This is the large greenish species figured as *Baoris mathias* Fab. The tips of the antennae are reddish and the lower spot in cell of the forewing, if present, is nearer the base than in *lyelli*.

*P. lyelli* Rothschild, 1915 (W. and L., 1914, 711♂, 712♀, 713♂; Waterh., 1932, Pl. xxxiv, 10A♀).—Holotype from Vulcan Is. This has a whiter sex mark, the tips of the antennae are black. I have not yet had time to go through the large number of specimens at Sydney to give the distribution of this and the previous species.

*P. impar* Mab., 1883.—This species is from New Caledonia (described from Oceania). Two races are found in Australia. That from Port Darwin is *lavinia* Waterh., 1932 (W. and L., 1914, 743♂, 744♀; Waterh., 1932, Pl. xxxiv, 11♂). Holotype male at Sydney. Specimens from Banks Is. are *contigualis* Rothschild, 1915.

*P. cinnara* Wallace, 1866 (W. and L., 1914, 778♂, 779♂; Waterh., 1932, Pl. xxxiv, 13♂).—Evans considers this species has not developed races. It is figured (778–9) as *Parnara colaca* Moore.

*P. bevani* Moore, 1878 (Waterh., 1932, Pl. xxxiv, 14♂).—The three specimens from Port Darwin are considered by Evans to have been introduced.

#### PARNARA MOORE, 1881.

Orthotype, *Eudamus guttatus* Brem., 1853. *Baorynnis* Waterh., 1932, with orthotype *Pamphila amalia* Semper, 1878, is a synonym.

*P. bada sida* Waterh., 1934 (W. and L., 1914, 714♂, 715♀; Waterh., 1932, Pl. xxxiv, 12♂).—Holotype male from Kuranda, Qld., at Sydney.

*P. amalia* Semper, 1878 (W. and L., 1914, 686♂, 687♀; Waterh., 1932, Pl. xxxiv, 9♂).—Holotype male is said to be in the Hamburg Museum. I have seen a drawing of it sent to Lower; it is now without a head. The holotype male (not a female as stated by Miskin) of *fulgidus* Misk., 1889, from Brisbane is at Brisbane, and is this species. I once considered *Pamphila sigida* Mab., 1891, as this species. The type is in the British Museum labelled Sydney. Evans finds it is *Atrytonopsis verna* Edwards, 1862, from North America.

#### TARACTROCERA BUTLER, 1869.

Orthotype, *Hesperia maevius* Fab., 1793. *Bibla* Mab., 1904, haplotype *Hesperia papyria* Boisd., 1832, is available for species with a stigma in the male.

*T. papyria papyria* Boisd., 1832 (W. and L., 1914, 580♂, 581♀; Waterh., 1932, Pl. xxxii, 18♂, 18A♀).—Holotype male probably in the Paris Museum and the locality Sydney must be used for it. Holotype male of *celaeno* Cox, 1873, from Nairne, S. Aust., is in the British Museum; *fumosa* Guest, 1882, is also from S. Aust., holotype male at Adelaide, and *alix* Plötz, 1884, from New Holland. The Western Australian race is *agraulia* Hew., 1868 (W. and L., 1914, 585♂, 586♀; Waterh., 1932, Pl. xxxii, 19♂), holotype male from Swan River in the British Museum, together with another male from the same locality and a pair erroneously labelled Moreton Bay, all from the Hewitson collection. Miskin's species *minimus*, 1889, is a synonym of this race as, although he describes both races, his primary description applies to *agraulia*. His holotype is at Brisbane. Lower always considered that *agraulia* was the same as *flavovittata* Latr. So far this species has not been found beyond Australia.

*T. dolon dolon* Plötz, 1884 (W. and L., 1914, 876♂, 877♀; Waterh., 1932, Pl. xxxiii, 2♂, 2A♀).—I have never been satisfied that we have correctly determined this species. It was described by Plötz as an MS. name of Herrich-Schaeffer and Plötz's figure 769, of which I have a copy, seems to be a female. The holotype probably came from Rockhampton, Qld. The description and figure might apply to the female of *T. ina iola* Waterh., 1933, or a race of *walkeri*, indeed the former is a better fit than what is known in Australia as *dolon*. The underside of the hindwing with rings in 2, 3 and 6 and the centre belongs to no skipper I know of in Australia. Mr. Max Day has extended its range to Port Macquarie, N.S.W. The race from the Northern Territory is *diomedes* Waterh., 1933, holotype male at Sydney.

*T. ina ina* Waterh., 1932, Pl. xxxiii, 3♂.—Holotype male from Port Darwin at Adelaide. It is the specimen Lower described as the female *anisomorpha* Lower, 1911. When I described this species less than ten specimens were known. It is not rare on the east coast of Queensland, especially at Mackay. I have named these *iola* Waterh., 1933, holotype male from Hayman Is. at Sydney. Probably this is the true *dolon* Plötz.

*T. anisomorpha* Lower, 1911 (W. and L., 1914, 883♂, 884♀; Waterh., 1932, Pl. xxxiii, 4♂, 4A♀).—Holotype male from Port Darwin at Adelaide. A rare species with a wide range, but not yet caught commonly in any locality. Also found in Timor.

*T. ilia ilia* Waterh., 1932, Pl. xxxiii, 1♂.—A very rare species from the Northern Territory. Holotype male at Sydney. The race *beta* Evans, 1934, is found in Dutch New Guinea.

#### OCYBADISTES Heron, 1894.

Orthotype, *Ocybadistes walkeri* Heron, 1894, from Damma Is., holotype male in the British Museum. Seitz omits *walkeri* from the genus and places it in *Telicota*. The species were formerly placed by me in *Padraona* Moore, 1881.

*O. flavovittata* Latr., 1824.—This name has a very unfortunate history, and at different times has been applied to almost every small brown and orange skipper in Australia. Unless a definite description is given by the earlier writers, it is impossible to know to which species they are referring. Semper, 1878, seems to have made the best of the earlier attempts as he lists both *flavovittata* and *sunias*. Miskin had but two specimens in his collection. Meyrick and Lower, 1902, used *flavovittata* for the western *agraulia*, and under *sunias* included three species. In my catalogue, 1903, I had at least four species under *sunias* and used *flavovittata* for *agraulia*. Lower, 1911, still placed *flavovittata* as a *Taractrocera*, but made *sunias*, *rectivitta*, *walkeri*, and *hypomeloma* distinct species. In 1914 it was pointed out that *flavovittata* could only have come from Sydney and was not a *Taractrocera*. To this Mr. N. D. Riley, 1926, agreed. In 1932 Brigadier Evans pointed out to me that amongst my long series there were two distinct species, one with a broad stigma in the male and one with a narrow stigma. This was the first time that the number of somewhat similar brown and orange species was definitely known. Acting on the report that a specimen with a Latreille label "*flavovittata*" then in Oberthür collection (ex Coll. Boisduval) was the species with a broad stigma, I described, in 1932, the species with the narrow stigma as *hespera*. The Latreille specimen is now in the British Museum, and is a female of the species with a narrow stigma in the male. It is undoubtedly one of the females Latreille had before him and probably the only one of these now in existence. It is strange that Latreille should have had only this species, as its female is rarer than that of the species with the broad stigma. It is to be hoped that confusion about this name is now finally settled. I agree to accept the Latreille specimen in the British Museum as the probable holotype female.

*O. flavovittata flavovittata* Latr., 1824 (W. and L., 1914, 866♀; Waterh., 1932, Pl. xxxiii, 11♂, 11A♀).—The name *hespera* Waterh., 1932, falls as a synonym, holotype male at Sydney. The race from North Queensland is *ceres* Waterh., 1933, and from Port Darwin is *vesta* Waterh., 1932 (W. and L., 1914, 858♂, 865♀). Holotype males of both at Sydney. This species has not yet been found beyond Australia.

*O. walkeri* Heron, 1894.—There are four races of this species from Australia; *olivia* Waterh., 1933, from Port Darwin; *sonia* Waterh., 1933, from Queensland;

*sothis* Waterh., 1933 (W. and L., 1914, 859♂; Waterh., 1932, Pl. xxxiii, 9♂, 9A♀), from Sydney, the holotype males of which are at Sydney. The holotype male of the South Australian race *hypochlora* Lower, 1911 (W. and L., 1914, 860♂, 867♀; Waterh., 1932, Pl. xxxiii, 10♂), is at Adelaide.

*O. hypomeloma hypomeloma* Lower, 1911 (W. and L., 1914, 584♂, 873♂, 874♀; Waterh., 1932, Pl. xxxiii, 8♂, 8A♀).—Holotype male from Sydney at Sydney, together with the holotype male of the race *vaga* Waterh., 1932, from Prince of Wales Is., Qld.

*O. ardea heterobathra* Lower, 1908 (W. and L., 1914, 872♂; Waterh., 1932, Pl. xxxiii, 7♂).—Holotype male from Kuranda, Qld., at Adelaide. Other races in New Guinea.

#### SUNIANA Evans, 1934.

Orthotype, *Pamphila lascivia* Rosenstock, 1885.

*S. lascivia lascivia* Rosenstock, 1885 (W. and L., 1914, 587♂, 588♂; Waterh., 1932, Pl. xxxiii, 14♂).—Holotype female in the British Museum from Victoria. The North Queensland race is *neocles* Mab., 1891 (Waterh., 1932, Pl. xxxiii, 15♂), from Cooktown. The holotype could not be found in the British Museum and is probably lost. The holotype male of *lasus* Waterh., 1937, from Bathurst Is. is at Sydney. Other races occur in Timor and New Guinea.

*S. sunias* Feld., 1860.—The identity of this small and widespread skipper has been a trouble for many years. Almost every small brown and orange eastern Australian species has had this name attached to it. In my early days I had no less than four different species under the name. Considerable advance was made in 1914 and again in 1932. There seems to be no doubt that our northern race is *rectivitta* Mab., 1878 (W. and L., 1914, 582♀, 583♂, 875♂, 882♂; Waterh., 1932, Pl. xxxiii, 12♂). This was described from Celebes and Australia, but in the 'Genera Insectorum', Celebes only is given. In the British Museum is a specimen from Mabilles collection with a Mabilles label "*P. rectivitta* P. Mb. Nov. Holl." This is very probably the male holotype and is certainly our northern race. There is no race of *sunias* in Celebes. The other Australian races are *nola* Waterh., 1932, Pl. xxxiii, 13♂, 13A♀, from New South Wales, and *sauda* Waterh., 1937, from Port Darwin. Holotype males of both at Sydney.

#### ARRHENELLA. nom. nov.

This name is introduced to replace *Arrhenes* as used by myself (Waterh., 1932, p. 251) and Evans (*Entom.*, 1934, p. 206). *Arrhenes* was first mentioned by Mabilles in the Genera Insectorum, 1904, p. 142, as a manuscript synonym of *Ocybadistes* Heron. Mabilles does not mention *O. walkeri*, the genotype of *Ocybadistes*, and his description is based on *marnas*. The use of *Arrhenes* by Evans and myself is incorrect, as that name can only be considered as a synonym of *Ocybadistes* Mab., nec Heron.

*Arrhenella* differs from its allies in having much broader wings and in the shape of the antennal club which is gradual and not sharply bent. The male has a discal stigma. Genotype *Pamphila marnas* Feld., 1860.

*A. marnas affinis* Waterh. and Lyell, 1912 (W. and L., 1914, 885♂; Waterh., 1932, Pl. xxxiii, 6♂), is the Australian race. Holotype male from Kuranda, Qld., at Sydney. This is the smaller and rarer of the two similar species of the genus found in Australia. Races of *marnas* are found in New Guinea and the Moluccas.

*A. collatus iris* Waterh., 1932 (W. and L., 1914, 704♂, 886♂; Waterh., 1932, Pl. xxxiii, 5♂), is the Australian race. Holotype male from Kuranda, Qld., at

Sydney. Plötz described *collatus* from Delagoa Bay, but all the other species in the same paper are eastern and his coloured drawing shows it to be from New Guinea.

TELICOTA Moore, 1881.

Orthotype, *Papilio augias* Linn., 1767. For a short time *Astycus* Hb. was used instead of *Telicota*, but that usage has been shown to be incorrect. As these species are very similar and difficult to distinguish from one another, I can only follow Evans in his papers in the *Entomologist* for 1934. Females are even more difficult to separate.

A.—Uncus undivided.

*T. eurotas* Feld., 1860, from Amboina. The Australian races are *eurychlora* Lower, 1908 (W. and L., 1914, 692♂, 693♂, 861♂; Waterh., 1932, Pl. xxxiv, 8♂, 8A♀), from New South Wales, and *laconia* Waterh., 1937, from Cairns, Qld. Holotype males of both at Sydney.

B.—Uncus divided to base. Forewing vein 3 markedly nearer to vein 2 than to vein 4.

*T. augias argeus* Plötz, 1883 (Waterh., 1932, Pl. xxxiv, 3♂, 3A♀), from Cape York, is the Australian race of this widely distributed species.

*T. anisodesma* Lower, 1911 (W. and L., 1914, 701♂, 862♂; Waterh., 1932, Pl. xxxiii, 18♂, 18A♀).—Holotype male from the Richmond River, N. S. Wales, at Adelaide. This rare species has not been found in North Queensland and the sexes are very different.

C.—Uncus divided to base. Forewing vein 3 about midway between veins 2 and 4.

*T. krefftii krefftii* Macleay, 1866 (W. and L., 1914, 868♂; Waterh., 1932, Pl. xxxiv, 4♂).—Holotype male at Sydney. The unpublished fig. 705 by Plötz of *Hesperia augustula* H-Sch., 1869 from Cape York is this species, which ranges from China to Australia. The race from Port Darwin is *argilus* Waterh., 1933. Holotype male at Sydney.

*T. ancilla* H-Sch., 1869 (W. and L., 1914, 683♂, 702♂, 703♀; Waterh., 1932, Pl. xxxiv, 5♂, 5A♀).—The female is *olivescens* H-Sch., 1869. Both are described from Rockhampton. The range of this species coincides with that of *krefftii* for about 200 miles in Queensland and it extends to the south of Sydney.

D.—Uncus divided to base. Forewing vein 3 nearer to vein 4 than to vein 2.

*T. mesoptis mesoptis* Lower, 1911 (W. and L., 1914, 869♀; Waterh., 1932, Pl. xxxiv, 6♂, 6A♀).—Holotype male from Kuranda, Qld., at Adelaide. Typically from North Queensland, but races occur in New Guinea, Key and Aru.

*T. brachydesma* Lower, 1908 (W. and L., 1914, 671♂, 672♀, 878♂, 879♀; Waterh., 1932, Pl. xxxiv, 7♂, 7A♀).—Holotype male from Cooktown at Sydney. A rare species, confined to Australia.

*T. ohara ohara* Plötz, 1883 (W. and L., 1914, 685♂, 696♂, 697♀; Waterh., 1932, Pl. xxxiv, 2♂).—Described from a female from Cape York, holotype probably lost. Occurs elsewhere in the New Guinea area.

CEPHRENES Waterhouse and Lyell, 1914.

This genus was proposed in place of *Corone* Mab., 1878, which is preoccupied. Its genotype is *C. ismenoides* Mab., 1878, a race of *Pamphila augiades* Feld., 1860.

*C. augiades* Feld., 1860.—Typically from Amboina, two races are found in Australia. The southern is *sperthias* Feld., 1862 (W. and L., 1914, 679♀, 682♀; Waterh., 1932, Pl. xxxiii, 17A♀). Holotype male from Sydney could not be found

at Tring. The male has small spots in 4 and 5 on the upperside of the forewing. The female is well marked on the upperside, although rarely specimens are found with the markings reduced. These are *utama* Butl., 1870, holotype in the British Museum. Mathew, 1888, described the early stages of this race under the name of *phineus* Cram., a Surinam species. Olliff and Forde, 1891, used the same name in the text and *palmarum* Scott on the plate. The northern race is *ismenoides* Mab., 1878 (W. and L., 1914, 678♂, 680♀, 681♂; Waterh., 1932, Pl. xxxiii, 17♂, 17B♀), based on a female without markings on the upperside. This holotype is in the British Museum, and I would assign the locality Cooktown for it. The male is without a spot in 5 on the upperside of the forewing, and the spot in 4 is usually smaller than in *sperthias*. This species has the end of the uncus bidentate.

*C. trichopepla* Lower, 1908 (W. and L., 1914, 676♀, 677♂; Waterh., 1932, Pl. xxxiii, 16♂).—Holotype male from Mackay, Qld., at Adelaide. This species has the end of the uncus tridentate.

#### SABERA Swinhoe, 1908.

Orthotype, *Hesperia caesina* Hew., 1866. The three Australian species of this genus are all different in appearance, but all have much longer antennae than the others in the group. In the male, *albifascia* has a small patch of sex scales within the white spot in 1a of the forewing above, *autoleon* a broken stigma, and *fuliginosa* a complete stigma. Races of all are found beyond Australia.

*S. caesina albifascia* Misk., 1889 (W. and L., 1914, 566♂, 569♂; Waterh., 1932, Pl. xxxiv, 15♂).—Holotype male from Herbert River, Qld., at Brisbane.

*S. orida fuliginosa* Misk., 1889 (W. and L., 1914, 737♀; Waterh., 1932, Pl. xxxiv, 16♂).—Holotype female from Cardwell, Qld., at Brisbane.

*S. dobboe autoleon* Misk., 1889 (W. and L., 1914, 694♂, 695♂; Waterh., 1932, Pl. xxxiv, 1♂).—Holotype female from Cardwell, Qld., at Brisbane, and not a male as stated by Miskin. No mention is made of a stigma in his description.

The following species have been recorded from Australia with a definite locality.

*Pyrgus argina* Plötz, 1884, *Mitth. Nat. Ver. Neu-Pomm.*, p. 22, Brisbane.—I have seen a copy of the coloured drawing of Plötz and also the figures in Seitz, where it is stated to be a *Bibla*. It does not resemble any known Australian skipper, and if it were from Brisbane it should have been found again.

*Hesperilla rietmanni* Semper, 1878, *Journ. Mus. Godeffroy*, xiv, p. 187.—A male and a female described from Sydney, caught in February. It is a small species, but I have never been able to determine what it is. It may possibly be *compacta* Butl., especially the female. Semper compares the male to *picta*, but he seems to have identified that species wrongly.

*Hesperilla bifasciata* Tepper, 1882.—The figure is very poor and seems to resemble a moth rather than a butterfly. In 1890 Tepper suggested it might be *flavorittata* Latr., but the figure could not possibly be that species.

*Oriens augustula* H-Sch., 1869.—This was described from Fiji. The specimens in the Hewitson collection labelled Port Denison are certainly from Fiji. The Townsville male at Adelaide was no doubt caught at Townsville. An occasional straggler may be caught in Australia, but it has failed to establish itself here.

*Hasora celaenus lugubris* Boisdu., 1832.—There is a very poor male at Adelaide from Cape York. If the record is correct, it is undoubtedly a straggler from New Guinea where it is common.

Most of Mabille's species described in 1891 have been mentioned above, except the following:

*Hesperilla eactis* is the common *Baracus vittatus* Feld. from Ceylon. Mabille, 1904, agrees to this.

*Hesperilla saxula*.—Holotype female in Berlin Museum shows it is not Australian.

*Pamphila lagon*.—Holotype male in Berlin Museum shows it is not Australian.

*Padraona suborbicularis* Mab., 1904, is a *Dalla* from South America.

*Ocybadistes suffusus* Mab., 1904, is the male of *Telicota melanion* Mab., 1878, from New Guinea and has not yet been caught in Australia.

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